COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KVEZ/44V1004W/19	**Course title:** Biology

Type and range of planned learning activities and teaching methods:
Form of instruction: Lecture / Seminar
Recommended study range:
hours weekly: 1 / 2 **hours per semester:** 12 / 24
Teaching method: on-site
(distance method according to the document Príkaz rektora P-8/2020 since 15. 10. 2020)

Credits: 3

Recommended semester/trimester: 1.

Level of study: I.

Prerequisities:

Requirements for passing the course:
Conditions for passing the course:
Final evaluation: written exam
Course evaluation:
A - 100% -91%
B - 92% -85%
C - 84% -77%
D - 76% -69%
E - 68% -60%
FX - 59% - 0%

Learning outcomes of the course:
Aims of the course unit: The aim of the course is to acquaint students with basic knowledge of general cytology, cell morphology, physiology, molecular biology and general genetics.
Theoretical knowledge:
The student will gain basic theoretical knowledge about the structure and physiology of the cell, molecular biology, as well as general genetics. This knowledge belongs to the general basis that the student must acquire and is necessary for other professional subjects.
Practical skills:
Based on the description, the ability to identify and characterize individual cells, genes, organelles.

Course contents:
1. Cell theory, chemical composition of the cell
2. Cell organization, Prokaryotic cell, Eukaryotic cells,
3. Cytoplasm, Biological membranes, Cell wall, Basics of microscopy
4. Membrane organelles (Cytoplasmic membrane, Nucleus, Mitochondria, Chloroplasts, Golgi apparatus, Endoplasmic reticulum, Vacuola, Lysosomes, Microthelium, Plastids),
5. Fibrillar organelles (Cytoskeleton, Centrioles), Non-membrane organelles (Ribosomes, Inclusions) Microscopy of cells, cell organelles, Microscopic preparations
6. Intercellular communication, uptake and expenditure of substances, cell bioenergetics
7. Cell cycle (Mitosis, Amitosis, Meiosis), Cell division microscopy, Presentation of seminar papers

8. Molecular biology, Chemical basis of heredity: DNA, RNA, Genetic code and its expression
9. Transcription, Translation, Native and permanent preparations
10. Autosomal, Gonosomal inheritance
11. Gene interactions, extranuclear inheritance, presentation of seminar papers
12. Mutagenesis (mutations, mutagenic and repair, gene, chromosome, genomic mutations), Quantitative and population genetics

Recommended or required literature:

CAMPBELL, N. A. - REECE, J. B. 2008. Biologie. Brno : Computer Press, 2008. 1332 p. ISNB 8025111784
Kotlas, J. 2011. Návody a úkoly k praktickým cvičením z lékařské biologie a genetiky. Praha : Karolinum, 2011. 148 p. ISBN 978-80-24619-33-0
Otová, B. Lékařská biologie a genetika. Praha : Karolinum, 2008. 123 p. ISBN 978-80-24615-94-3
Otová, B. Lékařská biologie a genetika. Praha : Karolinum, 2012. 202 p. ISBN 978-80-24618-73-9
SABÓ, A. Biológia. Trnava : Typi Universitatis Tyrnaviensis, 2008. 165 p. ISBN 978-80-80821-99-9

Language of instruction:
Slovak Language

Notes:
Due to the change in the method of study from presence to distance learning, the exam will be conducted in written and oral form through information and communication technologies.

Course evaluation:
Assessed students in total: 14

A	B	C	D	E	FX
28.57	28.57	14.29	7.14	14.29	7.14

Name of lecturer(s): doc. RNDr. Soňa Hlinková, PhD.

Last modification: 11.11.2020

Supervisor(s): doc. MUDr. Eleonóra Fabiánová, PhD., MPH.